

# TRS-80 Software and Hardware from MISOSYS, Inc.

## General Information

MISOSYS specializes in quality tools and professional software to enhance your microcomputer system. We have been serving the TRS-80 community since 1978. Our products are used worldwide by the discriminating professional, the casual computer user, as well as by the devoted hacker. In keeping with this tradition, we have professional products for the TRS-80 Models I, III, 4, 4P, 4D, as well as MS-DOS and PC-DOS based machines.

The information in this flyer represents all the printed matter we can send you concerning a software package. If this still does not answer all of your questions, please write or call; however, there is no other printed material we can send you.

If you are ordering from the United States outside of Virginia, you may place telephone orders direct to our order desk toll free by calling 800-MISOSYS (that's 800-647-6797 for you digital folks). Please, we cannot handle customer support or questions of a technical nature on our order line. Any telephone query not relating to an order must be directed to 703-450-4181.

## No-questions-asked RETURN policy

Here's a policy which should minimize anyone's fears of trying out one of our products. Any MISOSYS product except those designated as CLEARANCE, purchased directly from MISOSYS may be returned **within 30 days from the invoice date** for a full refund of the product purchase cost. Returns must be in a "like-new" saleable condition and be accompanied by a copy of the original invoice. So if you're not sure whether a MISOSYS product will serve your needs, try it out. If it doesn't fit, return it.

## TRADEIN Policy

Here's a useful policy. We will accept a tradein of any other non-MISOSYS commercial product as 50% of the purchase of an equivalent MISOSYS product. Got an ALDS and wish you had our relocatable macro assembler? Trade it in and get PRO-MRAS for \$44.98. Got PFS-FILE or PROFILE and wish you had LB? Trade it in and save \$37.47. How about EnhComp for half price? Trade in your BASCOM or Alcor MultiBASIC! Got somebody else's ratty disassembler? Trade it in and get PRO-DUCE for half price. Got a Radio Shack Series I (or II) disk assembler. Trade it in for EDAS or PRO-CREATE at \$37.48. Want an LDOS 5.3 complete with manual for \$32.48 plus S&H? Trade in your DOSPLUS, NEWDOS80, or MultiDOS! Note that you still pay full S&H charges.

## Policy on Disk Refreshes

The charge to recut the disk(s) for any one of our products is \$10 + S&H. The S&H charges are \$2 for US, \$3 Canada and Mexico, \$6 elsewhere. This charge pertains to the same release version. Upgrades are priced separately.

## THE MISOSYS QUARTERLY subscriptions

Take an *LDOS QUARTERLY*, an *LSI Journal*, and a *NOTES FROM MISOSYS*. Blend them together into a professional magazine format filled with the latest information on MISOSYS products, programs and utilities, patches, significant messages from our Compuserve forum, and articles on programming and what do you have? Why *THE MISOSYS QUARTERLY*. Each issue of TMQ has a significant product special available only to subscribers. That means, you will invariably recover the cost of a subscription by taking advantage of these specials. Not only that, TMQ will keep you up to date with information, news, and announcements concerning our entire product line and related machine environments.

Subscriptions must be prepaid. We'll start your's with the current issue. Subscription cost varies by rate zone as follows:

- A = \$25; United States via 3rd class bulk mail
- B = \$30; Canada, Mexico, or United States via 1st Class
- C = \$32; Columbia, Venezuela, Central America via AO Air
- D = \$35; South America, Europe, & North Africa via AO Air
- E = \$40; Asia, Australia, Africa, Middle East via AO Air

## Out of print TMQ's available

We are providing back issues of *THE MISOSYS QUARTERLY* via copier reprint. The price is \$12 plus \$2.75 S&H in the U.S. and CANADA. For foreign zone D, the S&H rate is \$5.50; zone E is \$6.50. The price will for regular back issues is \$10 plus S&H. Back issues will be available ad infinitum through one means or another.

**PRICE LIST effective October 1, 1989**  
Prices subject to change without notice

| Product Nomenclature      | Mod III  | Model 4  | Pg | Price S&H       |
|---------------------------|----------|----------|----|-----------------|
| 6 foot M-M printer cable  | same     | R-06-CMM | 4  | \$19.95 D       |
| BSORT / BSORT4 .....      | L-32-200 | L-32-210 | 3  | \$14.95         |
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| diskDISK LS-diskDISK ...  | L-35-211 | L-35-212 | 3  | \$29.95         |
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| DSMBLR / PRO-DUCE .....   | M-30-053 | M-31-053 | 2  | \$24.95         |
| EDAS / PRO-CREATE .....   | M-20-082 | M-21-082 | 1  | \$44.95 D       |
| EnhComp / PRO-EnhComp ... | M-20-072 | M-21-072 | 2  | \$59.95 D       |
| Filters .....             | L-32-053 | n/a      | 4  | \$14.95         |
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| Lair of the Dragon .....  | same     | M-55-021 | 3  | \$29.95         |
| LBMU-M4 .....             | n/a      | L-50-515 | 1  | \$29.95         |
| LDOS 5.1.4 User Manual .. | L-40-020 | n/a      | 4  | \$15.00 D       |
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| UNREL-T80 .....           | same     | M-30-054 | 2  | \$29.95         |
| UTILITY-I .....           | L-32-070 | n/a      | 4  | \$19.95         |
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\*\* Final closeout price including surface freight worldwide

Freight codes: A = \$2.50; B = \$3.00; C = \$3.50; D = \$4.00; E = \$4.50; F = \$5.00; G = \$7.50; H = \$10.00; All unmarked are \$2.00 each  
Canada/Mexico add \$1 per order; Foreign use US rates times 3 for air shipment

Virginia residents add 4.5% sales tax. We accept MasterCard and VISA; Checks must be drawn on a US bank.  
COD's are cash, money order, or certified check.

**MISOSYS, Inc.**  
P.O. Box 239  
Sterling, VA 22170-0239  
703-450-4181  
Orders only: 800-MISOSYS (800-647-6797)

# TRS-80 Software and Hardware from MISOSYS

## Window Application Popup

### PRO-WAM 2.0

M-51-025

This desktop manager gives keystroke access to 4 memory resident **pop-up** applications and disk access of others. A Function Key lets you invoke DOS library commands. PRO-WAM turns your TRS-80 into a powerful machine because it comes with many useful and powerful time savers and desk organizers. Here's some of what you get:

- ✓ An **ADDRESS** file data base prints cards and mailing labels. Throw away that black book and your Rolodex file.
- ✓ **HEAD** pipes formatted address data into your letters.
- ✓ **BRINGUP** tickler file schedules up to 12 items per day by time. New print module. Remember those appointments.
- ✓ **CALendar** gives you a month at a glance; covers 4000 years. Flags days with **BRINGUP** items.
- ✓ A 3x5 **CARD** filer for a free-form scratch pad of 40 columns by 12 rows. Or use the new **CARDX** with **forms** capabilities. It's great for keeping a small data base.
- ✓ **PHRASE** is a KSM from disk for lots of automation.
- ✓ A telephone list and auto**DIALER** for Hayes modems.
- ✓ **CALCulator** gives you 4-functions at your fingertips. **RPNALC** gives 7-functions in bin, oct, dec, and hex.

**PSORT** puts your PRO-WAM data files in sort order. **EXPORT** and **IMPORT** functions allow you to move data across windows between applications and programs. There's even an online **HELP** facility!

PRO-WAM works with all programs which use standard DOS keyboard requests and honor the DOS high memory pointer; requires one 32K RAM bank, about 2K of high memory, and a small piece of low RAM. If you have a model 4, then you must have PRO-WAM!

## PRO-WAM Application Pack

### Mister ED

M-51-028

Mister ED is loaded with **editor** applications. All are full screen which make your editing jobs easy. Best of all, these are all PRO-WAM applications so they can **pop up** even when you are using other programs and applications.

- ✓ **DED** edits disk sectors; **FED** edits file records; and **MED** edits memory pages (even alternate banks). All use a similar display screen and strikingly similar commands to enable you to edit anything. Get comfortable with one and you will know how to use all three of these editors.
- ✓ **VED** lets you edit the video screen with CARD-type editing. You get cut & paste; with this, you can easily use it as the **clipboard** facility found on more expensive systems.
- ✓ **TED** is just like the editor you get with LS-DOS 6.3; but ours works from PRO-WAM while you are using other programs! It's friendly, fast, and great for writing notes when you are right in the middle of a program you can't interrupt.

## Data Base Manager

### Little Brother-M4

L-50-510

**LB** is a flat file data management system where ease of use is its primary goal; you don't need to program anything or remember complicated command sequences to manage data. Even for the most complex data management needs, **LB** produces results quickly; EVERY function in **LB** is menu driven and comes with complete on-line **HELP** information.

To set up a data base, you just define the record layout. For each field, enter a descriptive name, type, and length. **LB** handles up to **65534 records**; each can contain up to **1024 characters**. **LB** supports up to **64 fields per record**; fields may be up to 254 characters long. There are seven types of data fields available: alpha, numeric, right justified, literal, dollar, float, and calculated (add, sub, mul, and div); any of which may be a *Protected Field*, so that its data will not be displayed unless the proper *Password* is entered.

You next establish a *screen*, and you are ready to begin entering data! You may view or edit any record at any time. Find information quickly. You can even create an *index* to your data so any record can be accessed within seconds.

Simply define a print format screen, and **LB** will print records according to your specifications; 10 different formats can be created. You can print with headers/footers, date, time, page numbering, totals and sub-totals if desired, mailing labels format, and even form letters. You select what records get printed and can use an index for printing in *sorted* order as well; great for organizing your report.

For **automating your processing**, **LB** can be run in an *automatic* mode; frequently used procedures (such as selecting, sorting and printing) can be saved for future use.

**LB** requires a minimum of two floppy disk drives and 128K of RAM or hard disk, 64K, and one floppy disk drive).

## LB Utility

### LBMU-M4

L-50-515

**LBMU** lets you generate a new data file set from existing **LB** data. This can save you countless hours in restructuring an existing data base, and provides you an excellent means to archive *old* records from your data base.

You can use all records in the existing file, or a chosen few by using an **LB** index file). The new data base file will be allocated with only as many records as needed. This is useful for de-allocating the space consumed by a data base file if too many records were allocated for it.

You may use any field and associated data which is present in the existing data base. You may incorporate additional fields. Furthermore, **LBMU** will allow you to lengthen or shorten any existing field. **LBMU** will even perform some field type conversions for you. For example, you can convert from numeric or right justified fields into dollar/float fields.

**FIXDEL** is included to rechain all deleted records in a data file should the deleted record chain become broken. If you are encountering failures in re-using your deleted records, then **FIXDEL** is the utility program for you.

## Z80 Assembler

### EDAS

[DOS 6 M-21-082] [LDOS 5.x M-20-082]

This powerful combined disk-based **line editor** and **Z80 macro assembler** assembles from one or more nested source disk files or memory buffer; features nested conditionals with ten pseudo-ops, nested 7-level **MACROS** with parameters both positional and by keyword, cross reference listings; and a separate **full screen text editor**.

The expression evaluator supports left-to-right evaluation of add/sub/mul/div/mod/shift, logical AND/OR/XOR/NOT, binary ops EQ/GE/GT/LE/LT/SHL/SHR; unary HIGH/LOW. Labels may be up to 15 characters long; start with A-Z, "@", or "\$"; positions 2-15 may also use "?" and "\_".

A sorted symbol table listing is available during the assembly. A complete **CROSS REFERENCE** listing is performed by the **XREF** utility.

Line edit text in memory and use a command syntax identical to BASIC; with block move/copy; with string change/search. Invoke DOS commands within the editor.

If you are writing system software, support software, applications - big or small, **EDAS** will provide the power to make your job easier, faster, and more worthwhile.

## Z80 RELocatable Assembler

### MRAS

[DOS 6.x M-21-083] [LDOS 5.x M20-083]

An advanced Z80 assembly package for the programmer who wants a powerful and flexible development system. It includes a macro assembler which generates either **relocatable object code** modules or **CMD** files directly, a linker, a librarian, a full-screen text editor, a utility for converting to/from line-numbered files, and a cross reference tool for directly generated **CMD** files.

**MRAS** generates M80 compatible **/REL** files. Macro support includes **REPT**, **IRP**, and **IRPC** as well as standard macro parameters by both **keyword** and **position**. It supports nested includes and a full range of nested conditionals. **MRAS** incorporates a fast binary-searched symbol table and the ability to enter symbol values from the command line. Labels can be any length with 15-character significance. It has flexible output redirection of listing and symbol table.

**MLINK** supports virtual memory bit-stream buffering, **REL** and **IRL** library searching, direct generation of complex program overlays, and does not generate disk space for **DEFS** regions in **DSEGs** and **COMMONs**. The linker can generate either a normal executable command file (**CMD**) or a core image file (**CIM**). **MLINK** supports the following special link items: 0-3, 5-7, 9-11, 13-15.

**MLIB** maintains both **relocatable (REL)** and **indexed relocatable (IRL)** module libraries. You can add, delete, extract, or replace a module; and get module maps.

**SAID** is an advanced **full screen text editor**. It can be used to generate your assembler source code, C-language source code, or edit any type of ASCII file. Model 4 128K operation provides multiple editing buffers.

## 8080 to Z80 Translator

**CON80Z** [DOS 6 M-31-033] [LDOS 5.x M-30-033]

A source translator to help you convert your Intel 8080 files to Zilog Z80 files. Converts CR-LF sequences to a single CR; By using the CR="c" parameter in the command line, the character "c" will be interpreted as a logical line end.

Translates "M" to "(HL)"; extended instructions (LDX); B, D, H, and PSW are changed to BC, DE, HL, and AF; changes <DB/DS/DW/SET> to <DEFB/DEFS/DEFW/DEFL>.

## Z80 Disassembler

**DSMBLR** [DOS 6 M-31-053] [LDOS 5.x M-30-053]

This **disassembler** provides extensive capabilities such as direct disassembly from CMD disk files, automatic partitioning of output disk files, data screening for non-code regions, and full label generation. It even generates the ORGs and END statement - the complete ball of wax. You will find that the use of this disassembler - *even by a beginning assembly language programmer* - will be paying handsome rewards with the ease of its use and clarity of the documentation. It's a professional tool for your use.

The labeling disassembler produces an assembler source from in-memory code or directly from a CMD-type disk file. Labels are generated for 16-bit references; a reference is any relative instruction target address or a 16-bit target for load, call, jump, add, or subtract instructions.

The disassembler allows you to build a *screening data file* telling what segments of the program are to be interpreted as data regions. You enter the addresses of the "segments" after analyzing the target program's disassembly.

CRT output is in screen-sized pages. PRINTER output is paged with column headings, page numbers and titles for print-outs that look identical to an assembler listing. Output to **DISK** produces a file suitable for MRAS/EDAS (configurable for others), and is automatically segmented into manageable file sizes. You will even be prompted to change the output file diskette when the disk becomes full.

## REL Disassembler

**UNREL** [T80 M-30-054] [CPM M-32-054]

Here's one of those rare utilities designed for the programmer. **UNREL** will decode a relocatable object module which has been assembled by either Microsoft's M80 or MISOSYS' MRAS assemblers. The output is an assembler source file compatible with MRAS and M80.

**UNREL** assumes anything in a code segment is code, and anything in a data segment is data. It supports special link items: 0-3, 5-7, 9-11, 13-15.

We bundle in **SPLITLIB** which can be used to split a library into separate modules. We also include **DECODREL**, for displaying the *bit stream* of a REL file. This can be used to more fully understand the actual bit stream.

**UNREL** should be the perfect professional assembler's tool for your bag of tricks.

## Communications Terminal

**LS-Host/Term** [DOS 6.x L-35-281]

This communications' package gives you the tools needed to get communications chores done quickly and effectively.

**ADDS25** is set up to look like a Radio Shack DT-1 emulating an ADDS-25 terminal. Full cursor positioning, reverse video, and blinking fields are supported.

**TERM6** allows one Model 4/4P to be used as a remote terminal to another running **HOST** portion of LS-Host/Term.

**HOST** lets your 4/4P operate remotely with *password* access for log-in from another 4/4P using **ADDS25**. All video effects are properly transferred to the remote system.

We include a version of **XMODEM** for file transfer between systems using the MODEM7 protocol, as well as a utility that converts to/from binary and HEX-ASCII binary representation, to/from INTEL Hex format and checksum files.

## Full C Compiler

**MC** [DOS 6.x M-21-064] [LDOS 5.x M-20-064]

If you are looking for a **full C compiler**, look no further. If you are looking for a well stocked UNIX System V standard library, look no further. **MC**, reviewed in the January 1987 issue of *80 MICROCOMPUTING*, is a complete C compiler which adheres to the standards established by Kernighan and Ritchie. The library of functions is extensive and System V compatible. The compiler generates Z80 relocatable macro assembler code (M80 or our MRAS). The libraries are files of relocatable object modules. **MC** is a full-featured compiler for the discriminating programmer!

**MC** supports command line *I/O redirection* for compiled programs, *wild-card* file specifications, parsing for UNIX "\*" extensions in file specifications, *overlay* support (requires MRAS), a full pre-processor, lots of options, and is designed for the programmer wishing the ultimate in C compilers. The package is supplied with the compiler, pre-processor, an optimizer, assembler macro files, C libraries, a Job Control Language file, the header files, and a 400+ page user manual. **MC** requires the use of either M-80 or MRAS (available separately), 2 disk drives, and upper/lower case.

## Structured BASIC

**TBA** [LDOS 5.x L-21-010] [DOS 6.x L-21-011]

The **BASIC Answer** is a text pre-processing utility that allows programmers to generate program code in a structured manner. *Source* code is created with your text editor; **TBA** is then used to process this source code into ordinary interpretive BASIC code that uses a minimum of memory.

**TBA** utilizes **labels** in lieu of line numbers; supports variable names to 14 significant characters; allows the use of pseudo **Global** and **Local** variables (local variables retain their value only in a unique subroutine); and introduces the concept of *Conditional Translation*. This last feature allows co-existence of "machine-dependent" or other variable code within the same program source with the irrelevant sections ignored when processing the source to executable code.

## BASIC Compiler

**EnhComp** [DOS 6 M-21-072] [LDOS 5 M-20-072]

This is an enhanced **BASIC compiler** released in 1986 and reviewed in the March 1987 issue of *80 Microcomputing* and October 1987 issue of *COMPUTER SHOPPER*. This compiler has lots of great features. It handles the bulk of Model III Microsoft BASIC and supports additional commands and functions. Standard is floating point with both **single and double precision** functions; random file access ("X" mode for reclens to 32767), turtle graphics, pixel graphics, keyed array sort, multi-lined functions, user commands, **IF-THEN-ELSE**, **REPEAT-UNTIL**, printer control, sequential file positioning, line labels and more.

A *supervisor* program automates the edit-compile-test phases inherent when using compilers; this makes using **EnhComp** almost as easy to use as your BASIC interpreter. You also get **CED**, a **line editor** with string search/change, partial load/save, renumber, copy, and move.

**Enhcomp** has a built-in **Z80 assembler**. You can easily create hybrid programs of BASIC statements and in-line assembly code which **completely eliminate** contorted string packing and DATA statement high-memory module techniques for your BASIC program to access a machine code module. Z80-MODE accesses BASIC's variables!

You'll have to edit *existing* BASIC programs, but the power and completeness of **EnhComp** make that an easy task.

## RATFOR Compiler

**RATFOR-M4** #M-21-073

**RATFOR** reduces your programming time and effort dramatically over that required when FORTRAN is used, because **RATFOR** code is **fully structured**, facilitating modification and debugging, and because program flow is apparent from the overall appearance of the program; comments are simpler and more versatile than in FORTRAN, simplifying self-documentation. This allows changes without the subsequent debugging tolerated when modifying FORTRAN. **RATFOR** *compiles* source code to an *object* of FORTRAN; use your existing FORTRAN compiler to convert this to executable.

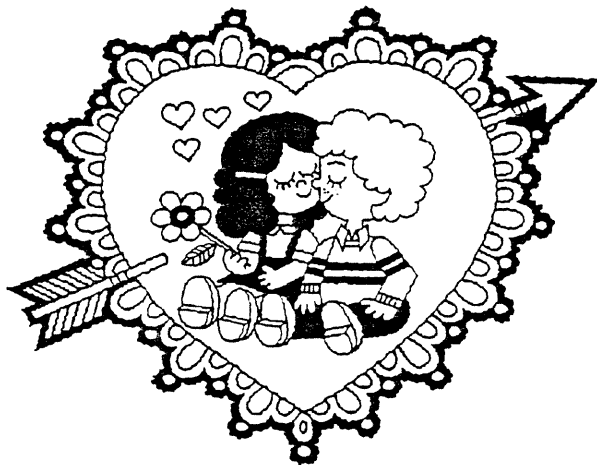
**RATFOR** is free-field; blanks are significant as delimiters; numerical statement labels are mostly unnecessary; all 80 columns are available for statements; provides user-defined macros; and **RATFOR** provides powerful loop constructs.

**RATFOR** is an excellent language for general purpose use, but it is vastly superior to FORTRAN when working with a large number of modules without documentation, as is necessary when producing very large programs.

Extensions supported include the "arith" macro to perform binary arithmetic operations, read and print macros for short form **READ** and **PRINT**, and support of any valid FORTRAN expression for "switch" and "case" operands.

This package includes the language translator, a *batch* file to automate compilation, a language Reference Manual, an Installation Manual, application programs in source code on disk, and our **LED** text editor for source code preparation.

*Our capacity for love is limitless!  
How about your on-line storage?*



*Improve your on-line storage with 5.25" half-height 360K or 3.5" 720K Fujitsu floppy drives, or hard drive kits pre-assembled by MISOSYS!*

### **Floppy Drives and Accessories**

|                                   |              |
|-----------------------------------|--------------|
| 5.25" 360K 1/2-height             | \$75+\$4 S&H |
| 3.5" 720K in 5.25" frame          | \$85+\$3 S&H |
| 3.5" 1.44M in 5.25" frame (PC-AT) | \$99+\$3 S&H |

Our Model 2SV5 dual half-height vertical external floppy disk drive enclosure will hold two 5.25" half-height disk drives or one standard height drive.

|                               |              |
|-------------------------------|--------------|
| 2SV5 drive case/PS            | \$60+\$5 S&H |
| 8" Dual floppy extender cable | \$15         |
| four-foot connecting cable    | \$10         |

### **Hard Drive Pre-assembled Kits**

Orders are being accepted for hard drive kits **now shipping**. Our kits come assembled in a cabinet holding up to two half-height drives, 60 watt p/s, fan, SCSI controller, and host adaptor. Software includes: driver, formatter, archive, restore, and sub-partitioning - all for one DOS. Give us a call to discuss building one for you!

|                                       |           |
|---------------------------------------|-----------|
| 20 Megabyte kit: M3 or M4             | \$495+S&H |
| 20 Megabyte kit: MAX-80               | \$450+S&H |
| 40 Megabyte kit: M3 or M4             | \$645+S&H |
| 40 Megabyte kit: MAX-80               | \$600+S&H |
| Hardware clock option**               | \$30      |
| Joystick option with joystick         | \$20      |
| Host interface cable                  | \$20      |
| Additional software interface         | \$30      |
| ** includes 50 bytes non-volatile RAM |           |

Note: S&H prices are UPS ground to continental U.S.

**MISOSYS, Inc**  
P. O. Box 239  
Sterling, VA 22170-0239  
703-450-4181 or 800-MISOSYS

FLOPPY3.PM3

## MISOSYS Hard Drive

MISOSYS is now shipping its long awaited hard drive package. Details on this package and its various options follow.

The drive case is 7" wide by 5.25" high by 15.5" deep; it is beige colored. The drive case holds two half-height drives, power supply and fan, controller, and host adaptor. The 60 watt power supply has an internal jumper plug to switch between 115 volt and 230 volt AC input. The front of the case has an LED indicator for power on. The rear of the case has a NEMA connector for the AC power cord, fuse holder for the AC, power switch, and a 50-pin SCSI female connector for the host interface.

MISOSYS is shipping complete drive packages currently with a Xebec 1420 or an Adaptec 4000A hard disk controller. These two controllers are essentially equivalent in operation with minor variations between them concerning the formatting commands. Both of those controllers use a subset of Small Computer Systems Interface (SCSI). The Adaptec 4000 was used by Lobo Systems for the WIN series of hard drives associated with the MAX-80. Orders specifically for the MAX-80 will be provided a drive package using that controller.

A small (3.6" by 6.3") host adaptor circuit board interfaces the 50-pin expansion port of the TRS-80 (host) to the 50-pin SCSI port of the hard disk controller. The Host adaptor is designed and manufactured by MISOSYS or its contractors; uses a state of the art Programmable Logic Device (PLD) for address decoding and control. The board includes a four-position DIP switch of which one position is used to differentiate between the two types of controllers being provided. One position of the switch is read by the software to automatically adapt to either controller. Remaining positions, as well as a spare one-position jumper plug, are currently reserved for future use. Software provided with the host adaptor supporting the S1420 and 4000A controllers includes:

1) A low level formatter which formats the drive(s) based on the drive's characteristics input by the user. All complete

drive packages provided by MISOSYS will be low-level formatted. This process writes the drive's characteristics to the drive so that the installation program can read the parameters from the drive, thereby eliminating the need to re-enter that data during installation time.

2) An installation utility and driver used to connect the drive to the operating system and partition it into segments.

3) A high level formatter used to add operating system directory information after first verifying the high-level readability of each data sector.

4) A sub-disk partitioning utility used to create "floppy-sized" storage areas on the drive partitions which are used to emulate additional drives and expand the number of files which may be stored.

5) A utility to archive the hard disk files onto floppy diskettes.

6) A utility to restore archived files to the hard drive.

7) A utility to park the hard drive's read/write head to a safe area on power down.

At some near future date, MISOSYS will also supply a software installation facility for generic Xebec S1410A controllers. The Xebec S1410 was popular a number of years ago, and was used by VR Data, ARM, and others. It also is available as the Konan DJ10 and another manufactured by Scientific Micro Systems.

The host adaptor has provision for a hardware real time clock module. This option uses a Dallas Semiconductor DS1287 clock module. Its internal battery has a lifetime in excess of 10 years. Software is provided to update the operating system's date and time data areas from the time data stored in the clock. The clock module has an internal RAM area of 64 bytes, 14 of which are used by the clock. This leaves 50 bytes of RAM available for your use. The RAM is accessed by simple port I/O commands. Since the RAM is battery backed, it is non-volatile; its contents are retained even when the power is turned off.

Another option which is available is a joystick port and joystick. A Kraft MAZE-MASTER joystick is provided with this option. The joystick is a simple 4-position switch action joystick with a fire button. The port interface is identical to the joystick available some time ago from Alpha Products; thus, any software which operated from that joystick will operate from this one. Additionally, MISOSYS is providing a keyboard filter which allows the joystick to generate five keycodes; one for each of the switch positions plus one for the fire button. The filter provides for dynamically changeable character repeat. A SETJS utility is also included which can be used to change the values of the generated "keystrokes" after the filter is installed. The option includes the joystick, a cable connecting the host adaptor header socket to a 9-pin D-subminiature socket, and an integrated circuit.

Twenty megabyte drive packages will be provided with a Seagate ST225 half height hard drive. Forty megabyte packages will be provided with a Seagate ST251 28 millisecond 40 megabyte hard drive.

Drive packages will be offered as 'pre-assembled kits'. Your 'kit' will be assembled to order and fully tested; all you will need to do is plug it in and install the software. Drive kits require a 50-pin SCSI to 50-pin edgcard host connecting cable (see price schedule).

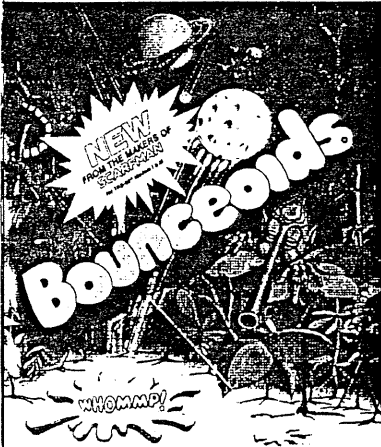
The following prices are currently in effect and are subject to change:

|                               |       |
|-------------------------------|-------|
| 20 Megabyte kit: M3 or M4     | \$495 |
| 20 Megabyte kit: MAX-80       | \$450 |
| 40 Megabyte kit: M3 or M4     | \$645 |
| 40 Megabyte kit: MAX-80       | \$600 |
| Hardware clock option         | \$30  |
| Joystick option               | \$20  |
| Host interface cable          | \$20  |
| Additional software interface | \$30  |

Note: shipping weight will be approximately 20 pounds per drive kit; freight charges are additional. Allow two weeks for personal checks to clear your bank.

# The Cornsoft Group's arcade-type games Now available exclusively from MISOSYS

## Great Bouncing Boulders, It's ...



### BOUNCEOIDS

Where do they come from? What do they mean? You'll leave those questions to the scientists. Your duty is clear: DESTROY! Utilizing your newly issued class 4 annihilator, you must reduce the massive BOUNCEOID BOULDERS to cosmic dust! BEWARE! They bounce off of walls like giant pool balls, and the smallest touch means instant death! And as an added complication, terrible shaking bugs come slithering out of null space to crunch you into bug lunch! If you can prove yourself worthy, you will be challenged by the mysterious alien invaders in a nerve grinding test of incredible coordination and targeting skills. Will you survive?

## Crazy Painter



Become a "Crazy Painter" and create a masterpiece

...if you can

A mischievous puppy, snakes and poisonous turpentine buckets force changes in your painting. In higher skill levels, "paint eaters" start chewing up your work. Suddenly, everyone's a critic. Can you overcome them? And on top of it all, in the Exclusive Challenge Mode, you have to catch an army of runaway puppies. Crazy Painter is joystick compatible.

## The Official FROGGER™

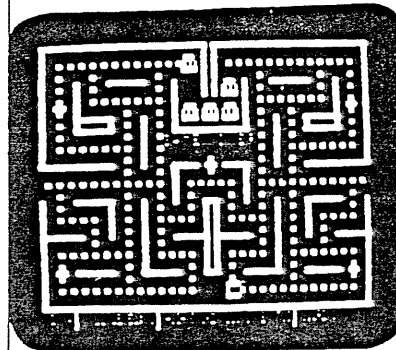


by SEGA

The popular arcade game for TRS-80 Models I & III.

## SCARFMAN

Will you SCARF your way to victory?  
Can you avoid the MONSTERS that guard the maze?



Answers to these questions await the brave, who dare to enter the maze where the monsters live. SCARFMAN, written by the author of MISSILE ATTACK, features quality GRAPHICS, SOUND, REAL TIME MONSTERS, and hours of ENJOYMENT. Nine progressive skill levels make the game more difficult as you get better. Do you have what it takes to reach skill level 9?

MISOSYS has licensed the powerful action games previously published by The Cornsoft Group: Frogger™, Scarfman, Bounceoids, Crazy Painter, and Space Castle are exceptional action games with great video and Alpha joystick support (even the new MISOSYS joystick). All games are for Model III/I (or 4 in III mode). Each is priced at \$14.95; Buy any two and take 15% off. Buy all five and take 30% off. Add \$2 for S&H in U.S.; Canada = U.S. + \$1; Foreign U.S.\*3.

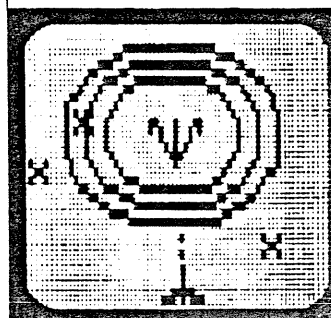
MISOSYS, Inc.

P.O. Box 239

Sterling, VA 22170-0239

703-450-4181 or 800-MISOSYS

## SPACE CASTLE



Will you save the Andromeda Galaxy by destroying the Space Castle or will the evil warlord Yugab continue to rule, uncontested? Locked in battle with Yugab, your main defense is your ability to skillfully handle your ship and it's projectiles. If you are not careful, Yugab's intelligent mines will hunt you down and blow you into space dust. Space Castle has fast action and exciting sound.





WHEN YOU'VE GOT A

# NEWS FLASH



YOU CAN COUNT ON  
US TO DELIVER!

## MISOSYS now publishing DoubleDuty™

Sterling, VA: DoubleDuty, published previously by Radio Shack (cat 26-2231), has been licensed for publication by MISOSYS, Inc.

DoubleDuty divides your 128K TRS-80 Model 4 computer's memory into three complete and independent partitions. Two partitions each operate as if they were their own 64K Model 4. The third can be used to execute DOS library commands.

DoubleDuty is available now from MISOSYS at an introductory price of \$37.46 (plus S2S&H) until January 31st, 1989. That's 25% off the regular price of \$49.95, and 94% off the price of a new Model 4! If you thought you needed another computer, think again. With DoubleDuty, you can now have two for the price of one! With more than 128K, you can have DoubleDuty and PRO-WAM installed together!

DoubleDuty requires a 128K TRS-80 Model 4



MISOSYS, Inc.  
P. O. Box 239  
Sterling, VA 22170-0239  
703-450-4181 (orders only: 800-MISOSYS)

MISOSYS now publishes Breeze/QSD's complete line of Power-Soft software. Call or write for our catalog.





# PowerSoft's World Famous Utilities and Software for TRS-80 Computers with Floppies and/or Hard Disks.

## Now available exclusively from MISOSYS!

**SUPER UTILITY PLUS** • *The greatest utility ever written for the TRS-80. Every TRS-80 magazine has said so!*

Five-Star Excellent Reviews in 80-MICRO, 80-US, INFOWORLD, POPULAR ELECTRONICS, FAMILY COMPUTING, Creative Computing & more!

**"The King of Utilities"** - Reads, repairs and works with all the popular TRS-80 operating systems Models I, III, 4!  
Allows you to set up two drives for two different DOS's and copy between them easily!

If you use a TRS-80 with disk drives, then this is a must-have program that you will wonder how you did without for so long! Super Utility has won numerous awards, has received many 5-Star reviews and this could be your last chance to purchase a copy at this unheard of price. Super Utility does so many things, you will never use its full potential, but it isn't that hard to use since it is completely menu-driven with the most common defaults built right in. It is configurable for all the popular TRS-80 operating systems and will even allow you to set one drive for one system and another drive for a different operating system and copy files easily between the two. Even between Model I and III or 4, regardless of density, track number, number of sides, or system used. We have thousands of letters in our files over the years about how Super Utility has saved the user from various problems. Super Utility removes or decodes passwords (strips them right off a disk in one pass), reformats a disk without erasing the data, fixes problems, backs up most protected disks, etc. This was the very best utility ever written for the TRS-80 and now is the time to get your own copy. Super Utility has over 65 functions and features. Too many to describe! A fantastic buy. Does not work on hard disks. Our ToolBox or ToolBelt has similar features for hard drive use, as well as floppy. SU+ does not support Newdos/80 double-sided disks. '86 price: \$79.95

**Super Utility Plus (Mod III & I) - Disk repair, password removal plus 65 other functions with manual.** **\$34.95**

**Super Utility Plus 4/4P/4D (same as above for TRS-80 Model 4, 4P, 4D -Reads/Writes 4, III & I)** **\$34.95**

The Model 4 version of Super Utility has all the features of the Model I/III version, but more! It uses the larger amount of memory for quicker operations, plus utilizes the three function keys. One key is even definable by the user to go right to their favorite or most used function in Super Utility 4. Also, boots right up in a Model 4P without having to first load the Model I/III ROM file. Many other niceties for the 4 have been implemented in this version of Super Utility.

### Extra Super Utility manuals, disks or unprotected disks:

Need an extra manual for your SUPER UTILITY? Pick up an extra manual (3-hole punched) for only \$10. Need an extra disk? Send \$10 (if registered) for an extra copy. Want the unprotected CMD file version? Send \$20 and your serial number (if registered) and we'll send you the unprotected CMD file version.

**LDOS ToolBox (Hard Disk Check, Repair, Modify, much more! Like a "SU+" for hard disk)** **\$24.95**

> Original 1986 price: \$49.95 - by Kim Watt, author of Super Utility+, PowerMail+ and many more great programs!

If you own a hard disk and use LDOS, this is the perfect insurance policy for your data. The LDOS TOOLBOX is like a Super Utility+ for hard disks. Features Disk Check and Disk Repair, Sector Modification, plus many, many other useful utilities that makes using a hard drive even easier. Each program contains a builtin help command, so many times you don't even need to look things up in the manual - just press <Enter> for help! A very wise buy for hard disk users.

**Model 4 ToolBelt (same for Model 4 TRSDOS 6 use. OK for 6.3. Like a "SU+" for hard disk)** **\$24.95**

> Original 1986 price: \$49.95 - by Kim Watt, author of Super Utility+, PowerMail+ and many more great programs!

This is similar to the LDOS TOOLBOX, except it is for the Model 4 TRSDOS 6 operating system (all versions).

>>>> BOTH LDOS TOOL BOX AND MODEL 4 TOOLBELT FOR ONLY \$44.95! <<<<

**Back/Rest - Super Fast Hard Disk Backup and Restore. Saves hours of time! For I, III or 4.** **\$34.95**

> Original 1986 price: \$99.95

BACK/REST has proven to be a great time-saver for thousands of TRS-80 hard drive users. When reviewed by 80-MICRO, they gave it FIVE STARS - perfect! It saves hours of time and is very easy to use. BACK/REST can back up 10 megabytes in about 10 minutes and 20 meg in about 30-40 minutes. It also tells you how many disks to have ready. Works under LDOS or TRSDOS 6 (both versions on same disk). Great utility for hard disk users!

**Superior Hard Disk Drivers for Tandy disk systems. Mix Model III and 4 easily.** **\$49.95**

> Original 1986 price: \$99.95

These hard disk drivers out-perform the Tandy drivers in many ways. Our drivers allow you to combine LDOS and TRSDOS 6 on the same drive and boot from either system (with floppy disk). They run faster and take much less memory from the system. Only for use with Tandy Hard Drives.

**PowerMail Plus (Please specify Model 4, III/I.) 5 Star mailing list-data system!** **\$34.95**

> Original 1986 price: \$99.95

This program was because all the other mailing list/data base systems couldn't keep track of all the types of data most folks wanted to keep track of. You needed speed, you needed hard drive support, and you needed a crash-proof data structure. PowerMail+ was top-rated (5 stars) in several publications and has never been topped. Works on floppies or hard disk under all popular TRS-80 operating systems. Allows importing of data from several other once popular mailing systems to avoid re-typing. Written in machine language by the author of Super Utility, this program is FAST and sorts up to 10 levels very quickly. If you keep track of names and addresses along with associated data for any situation, this is the one to use. Many churches, organizations and businesses use PowerMail+ for all the different kinds of lists they need to pull from. Each record has 24 user-definable "flags" to allow total customization for your exact needs.

**Text-Merge Form Letter Module - Create customized "form letters" and Labels with PowerMAIL+!** **\$15.00**

This optional module for PowerMail allows you to create customized "form letters" or custom labels, lists, etc. with PowerMail Plus and any word processor that saves text in ASCII format. Very easy to use and really gets the effect you want. Allows completely definable report generating from your PowerMail+ data.

## **PowerSCRIPT - A Major Enhancement for SCRIPSIT 4, III and I (not SuperScriptsit)**

**\$24.95**

> Original 1986 price: \$39.95

One of PowerSoft's very best sellers, this modification for Radio Shack's SCRIPSIT program turns it into a POWERHOUSE! Our program merges with your copy of SCRIPSIT to create a new program that outperforms most other TRS-80 word processors without relearning a new program! PowerScript adds new features in two important areas. The first area is in the printer control. PowerScript allows you to add printer control codes directly in the body of your text! Now it is easy to add underlining, bold face, the different sizes of print, etc. Initially set up for the EPSON type dot-matrix printers, it is configurable to just about any printer during set-up. If you have more than one printer type, then just set up a copy of PowerScript for each printer you have. The second area of improvement is in disk and file control. PowerScript adds several neat features to SCRIPSIT, including the ability to see an alphabetized directory without exiting the program seeing how much free space you have, and others. This has been one of our most popular programs and we have received many, many complimentary letters on its performance. It works on the Model I, III or 4 versions of SCRIPSIT. It will even make a Model I version of SCRIPSIT work on a Model III or 4 (in the III mode). Lastly, PowerScript removes the limited copy "feature" of SCRIPSIT so that you may make as many copies as you need or copy it to your hard disk without hassle.

## **PowerDraw (animated TRS-80 screen graphics! Easy to use. Great for kids or adults!)**

**\$19.95**

> Original 1986 price: \$39.95 - by Kim Watt

INFOWORLD, 80-MICRO and 80-US magazines really loved this program when they reviewed it. It does many things and is fun to use as well. First, PowerDRAW allows you to create graphics (mixed with text if desired) and save them to disk. It also allows you to create up to 33 "frames" of animation and "play" them like a movie. It also allows you to save the graphics in several modes, including BASIC listings, CMD file format, and others. These can then be merged into your own programs, etc., either in BASIC or machine language! Many of PowerSoft's opening screens were created with PowerDraw. In fact, it even creates animated opening screens (like we use in Super Utility, PowerTool, etc.) to really pep up the program. It also allows you to print the screens on Epson-type and several other type of printers. Lastly, PowerDraw has the ability to load in many types of TRS-80 graphic's and convert them to BASIC listings like a BASIC program generator!

## **PowerDOT 2.0 for printers. Mix text with graphics - no problem. Build new fonts.**

**\$19.95**

> Original 1986 price: \$49.95

This program is similar to PowerDraw, but quite different. It allows you to create "hi-res" type screen graphics combined with text, and allows you to create drawings much larger than your screen. The screen is a "window" to a much larger drawing area and you use the arrow keys to move about the drawing. In a way, it is similar to Macpaint for the Macintosh computer. It also allows you to create custom fonts for ads, etc. Many of our early ads were created with PowerDot. It creates the hi-res effect due to each TRS-80 block pixel being printed as a single dot. Please specify if EPSON, Okidata, Prowriter, or Radio Shack printer.

## **PowerDriver Plus for SuperSCRIPSIT and SCRIPSIT PRO and Epson printers**

**\$17.95**

Allows EPSON or compatible printers to be fully utilized with SuperScriptsit.

This is a replacement driver for the ones you got with SuperScriptsit. It fully supports the various Epson and Epson compatible printers to the limits of their capabilities. Model I, III or 4 is supported in the same package. Easy to install. Once installed, works without any extra thinking. Thousands of happy customers!

### **TRS-80 GAME COLLECTIONS ON DISK - for Mod I, III, 4 (in III mode) - Special! All 3 sets for \$29.95**

#### **Leo Christopherson TRS-80 Animated Game Disk with sound (Leo's Greatest Hits)**

**\$12.95**

This is one of the greatest values in games ever produced. Leo Christopherson wrote the very first animated game for the TRS-80 and the country went wild for it. Android Nim will make everyone laugh to watch these life-like creatures as they shake their heads up and down or side to side and blink at you stupidly as they wait for you to make a move. Then Leo invented how to make the TRS-80 produce sound and added it to NIM. He then followed Android Nim with the other games, even getting Radio Shack to sell Dancing Demons, which is a real scream. It alone is well worth the price of this disk; but you get ALL of Leo's programs on one disk for one great low price. If you haven't yet bought this disk, do it now! It is a classic! Each one of these games originally sold for \$9.95 - \$19.95 EACH. The disk includes the famous games: ANDROID NIM, BEEWARY, DUELING DROIDS, DANCING DEMONS (once sold by Radio Shack for \$14.95), SNAKE EGGS, and ANIMATED LIFE. All games feature full sound effects and some of them are even in 3-part harmony! You and your family will just love this disk! Dancing Demon even features saving your song and dance routines to disk and four of them are included! The possibilities are endless and it is always entertaining. A great way to "show off" what your computer can do and always fun.

#### **KIM WATT GAME DISK - Space Colony, Symon, Capture, Horse Race Slots - 3 with Sound**

**\$7.95**

Kim watt, author of Super Utility and other famous programs wrote some games that Adventure International published back in the early '70's. They are interesting in that most people have never seen these, as by the time SUPER UTILITY was established in the market, these games, as well as Adventure, were gone. Originally these were sold on three separate diskettes (or tapes), but we have combined them all on one disk for you collectors.

#### **LANCEMICKLUS' GREATEST GAMES-3 Disk Set!**

**\$17.95**

This is a great collection as it features space games (Space Trek), adventure games (Dog Star Adventure), gambling games (The Mean Craps Machine, which also includes a Craps tutorial booklet on disk), board games (Mean Checkers Machine), as well as some darn useful programs that you might use for real purposes. Also has some educational games for the kids. You will enjoy owning this set of programs by one of the early pioneer programmers for the TRS-80, Lance Micklus.

*Special! All 3 Game Disk Sets for only \$29.95! Five disks crammed full of games that you and your family will really enjoy!*

*If ordering the single density, Model I version of game set, the price is \$34.95.*

# **MISOSYS, Inc.**

**P. O. Box 239**

**Sterling, VA 22170-0239**

**703-450-4181 (Orders only to 800-MISOSYS [647-6797])**

Please include \$2 S&H per program package in US; Canada is US+\$1; Foreign is US\*3. COD (cash/money order) is \$3 additional.

Virginia residents add 4.5% sales tax, VISA/MC accepted.

|  |   |   |
|--|---|---|
| <h2 style="text-align: center;">BASIC Sort Utility</h2> <p><b>BSORT</b> [DOS 6.1.2+ L-32-210] [LDOS 5.x L32-200]</p> <p>Here's a high speed <b>sort</b> for almost any number of one or two-dimensional BASIC arrays: <i>string</i>, <i>integer</i>, <i>single</i> and <i>double precision</i>. When invoked from your BASIC program, BSORT will perform the indicated sort, and execution will continue with the next statement in your program.</p> <p>Multiple <i>key arrays</i> may be specified; the sorting on each key can be done in either <i>ascending</i> or <i>descending</i> order. <b>Tag arrays</b> that do not affect the sort, but merely follow along may also be specified. BSORT can also create an integer <i>index array</i>, without affecting the actual order of the elements in the "sorted" array. For string arrays, "<i>midstring</i>" parameters allow sorting based on a portion or "midstring" of the key array elements. BSORT goes far beyond CMD"O" in capabilities and performance.</p>  | <h2 style="text-align: center;">Text Editor</h2> <p><b>LED</b> [LDOS 5.x L-30-020] [DOS 6.x L-30-021]</p> <p>A <b>full screen text editor</b> for almost any type of ASCII file, including ASCII program source code for BASIC programs, TBA source, as well as JCL and KSM files. The command menu may be displayed while editing text. This display includes all command keys, the filename, the cursor column, the character hex value, and the available memory.</p> <p>Cursor positioning uses the <b>arrow</b> keys. &lt;CLEAR&gt; key combinations move the cursor to the top, bottom, left or right. Has the following modes: <i>overtyp</i>, <i>insert</i>, <i>insert line</i>, and <i>delete</i>. Block mode allows the manipulation of large text areas. Search and Search/Replace are also provided.</p> <p><i>Hex mode</i> allows characters to be input as two hexadecimal digits; makes possible the direct editing of graphics.</p>   | <h2 style="text-align: center;">TRSDOS 6 Source books</h2> <p><b>THE SOURCE</b>, 3-Volume Set L-60-020</p> <p>This will be the last time that these books will be made available for a <i>giveaway price</i>. <b>THE SOURCE</b> contains a vast wealth of information for the assembly language programmer. <b>THE SOURCE</b> is not only informative, but also an excellent learning tool.</p> <p>These books contain the complete, <b>commented assembler source code</b> for TRSDOS 6.2, excluding hard disk support, the Microsoft BASIC and the HELP utility. Each book is softbound, 8-1/2 by 11. The complete set totals over eleven hundred pages of cleanly commented, elegant source code. Volume 1, The System, covers SYS0 to SYS5 and SYS9 to SYS13. Volume 2, The Libraries, covers all of the library commands making up SYS6, SYS7 and SYS8. Volume 3, The Utilities, covers all utilities, drivers, and filters.</p>   |
| <h2 style="text-align: center;">Disk Sort Utility</h2> <p><b>DSM</b> [DOS 6.x L-35-205] [LDOS 5.x L-35-204]</p> <p>A high speed, <b>disk virtual sorting utility</b> that eliminates the burden of sorting from your applications software development project. DSM will create and maintain index files for you. Since the sort is disk virtual, your only limitation is the amount of available disk space, not available memory!</p> <p>Sorts almost any type of field in a random access file: <i>integer</i>, <i>single</i> and <i>double precision</i>, and <i>strings</i>. Files can have 65,535 records with an LRL up to 1024. Specify up to 24 select fields (12 for DSM51). Relations (<i>EQ</i>, <i>LT</i>, etc) may be applied to your criteria; operators <i>AND/OR</i> may be used.</p> <p>Sort <b>ascending</b> or <b>descending</b>; skip records that match a <i>deleted record</i> value. Save a <i>template</i> of the specifications to disk to automate the sort. This allows you to set up a sort operation that is transparent to even a novice user.</p> <p>DSM is intended for use with user-developed applications software. Please note that DSM creates an index file, as opposed to actually re-ordering the records in the data file.</p> | <h2 style="text-align: center;">Action Game</h2> <p><b>The Gobbling Box</b> M-55-020</p> <p>This fast-paced action <b>arcade-type game</b> runs on the TRS-80 Model I, III, and 4/4P/4D. The game generates a variety of special sound effects and music which complement the action on the screen. The arrow keys or Alpha Products joystick control the movements of the GOBBLER in this game.</p> <p>You want your GOBBLER to eat as many dots as possible, while trying to avoid the ZONKERS who won't stop chasing your GOBBLER until one of them eats it or until the GOBBLER eats all dots on the GameBox. The GOBBLER's reward is a new Box; there's 3 in all. The GOBBLER can tame the ZONKERS for a short while by eating one of the ENERGIZERS on the board. Then it's the GOBBLER's turn to chase, catch and eat the ZONKERS.</p> <p>The game has two skill levels; the pace is fast; the sound is great; the action is continuous. You can't beat this bargain of a game. Even Stacey plays it!</p>  | <h2 style="text-align: center;">Hard Disk Driver</h2> <p><b>RSHARD</b> M-12-013</p> <p>Finally for your Radio Shack hard disk drive is this hard disk driver package from MISOSYS - at a reasonable price. You get support for both LDOS 5.3 and LS-DOS 6.3</p> <ul style="list-style-type: none"> <li>❶ <b>RSHARDx</b> driver partitions by both head and/or cylinder; supports two 8-headed drives up to 1024 cylinders.</li> <li>❷ <b>RSFORMx</b> formatter adds both low level and high level formatting to your drive's partitions.</li> <li>❸ <b>HDCHECK</b> checks the performance of your drive.</li> <li>❹ <b>ARCHIVEx</b> lets you backup some or all of the files on your hard drive to multiple floppies; BIG files and small files.</li> <li>❺ <b>RESTOREx</b> lets you selectively restore some or all archived files to your hard drive.</li> </ul> <p>All ten modules come fully documented and are ready to install into your LDOS 5.3 or LS-DOS 6.3 system (or both).</p>   |
| <h2 style="text-align: center;">Quizzes and Answers</h2> <p><b>QuizMaster</b> [LDOS 5.x L-51-500]</p> <p><b>QM</b> is an educational question and answer program that can also be used as a game. It displays a question and four possible answers and scores the operator's response based upon speed and accuracy. <b>QM</b> comes with five subject files of up to 100 questions each derived from grades 6-9 textbooks: U.S. Information; Geography; Math; General trivia; as well as Fantasy and Science Fiction trivia.</p> <p><b>QM</b> <b>randomizes</b> both the order of the questions and the order of the answers to prevent memorization. The question sequence is never the same. Extended play provides a <i>sudden death mode</i> feature for the skillful user.</p> <p><b>QM</b> includes all the programs necessary to establish and maintain your own series of <i>multiple choice questions</i> on any subject. Five support programs are provided to create, extend, edit, print, and maintain the question &amp; answer files. All features are easy to use and easy to operate.</p>   | <h2 style="text-align: center;">Adventure-type Game</h2> <p><b>Lair of the Dragon</b> [Mod 3&amp;4 M-55-021]</p> <p>If you thought the TRS-80 was dead, think again. Our <u>Lair of the Dragon</u> <b>MegAdventure</b> is unlike virtually any other interactive fiction adventure that you have ever played, for it will more than just paint its pictures upon the canvas of your imagination - it will slap the sweat right onto your forehead!</p> <p>If you truly believe that discovery is one of the finest points in life, if you would like to test your ability to think logically to the fullest extent of your ability, if you would like to take on the largest adventure ever written in the genre of interactive fiction, and if you have the guts to face that which would make any other mortal elf cringe in fear, then <b>Lair of the Dragon</b> is your cup of poison; for reward is a hard-earned commodity here, not given easily to the timid and the faint-hearted. If you are an old hand at adventuring, then be prepared for a worthy opponent.</p> <p>MegAdventure rips the door to adventure right off its hinges!</p> | <h2 style="text-align: center;">Hard Disk sub-partitions</h2> <p><b>diskDISK</b> [LDOS 5.x L-35-211] [DOS 6.x L-35-212]</p> <p>Do you have a hard disk? If so, you need <b>diskDISK</b>. The diskDISK utility allows the creation of <i>logical disk partitions</i> as files on a physical disk drive. This is indispensable for hard disk users. Once a <b>diskDISK</b> file is <i>installed</i> into a logical drive slot, the diskDISK can be used just like any other physical drive; <b>diskDISK</b> provides for easy swapping of any currently active diskDISK file.</p> <p>With <b>diskDISK</b>, you can easily group related files for ease of maintenance. DiskDISK files can also be set up as <i>images</i> of physical drives to allow mirror image backups.</p> <p>Finally, <b>diskDISK</b> drives allocate in granule sizes smaller than your hard disk system. Five inch diskDISK images allocate just like floppy drives. Also, there are special diskDISK types that allocate in one or two sector granules for maximum storage efficiency.</p> |

# TRS-80 Software and Hardware from MISOSYS

## Model III DOS

### LDOS 5.3 [Mod 3/4 M-10-033] [MAX80 M-10-833]

Provides *portability* between models and systems. LDOS 5.3 for the Model 3 and Model 4 LS-DOS 6.3 all use the same disk format, providing data diskette compatibility. If you use LS-DOS 6.3, you should use LDOS 5.3 on your Model 4 for Model 3 mode software.

Over the old 5.1.4 release, LDOS 5.3 adds:

- ✓ Date support through 12/31/99, time stamping for files
- ✓ DATECONV converts older disks to extended dating
- ✓ On-line HELP facility for DOS and BASIC - 117 screens
- ✓ FORMS lets you change printer filter parameters
- ✓ SETCOM lets you change RS-232 parameters
- ✓ paged displays in LIST; full-screen hex mode
- ✓ MEMORY displays data on high-memory modules
- ✓ Access to LIB commands from LCOMM
- ✓ TED, a full screen text editor for ASCII files.
- ✓ PATCH supports D&F patch lines and REMOVE fix
- ✓ line COPY and line MOVE in BASIC.
- ✓ a powerful INPUT@ for screen fielded input.
- ✓ CMD"V" dumps an active variable list.

LDOS 5.3 is available only as an upgrade kit to 5.1.4. New users should also purchase the LDOS 5.1.4 User Manual

## DOS Manual

### LDOS User Manual L-40-020

LDOS 5.1.4 is documented in an extensive operating manual (over 400 pages) containing both user instructions and a large technical information section. Numerous examples are given for all operating functions.

## Mod 4 features for Mod III

### Hardware Interface Kit M-12-110

This will allow you access to your Model 4 *hardware features* while using LDOS 5.3. Here's what you get:

✓ K14 keyboard driver: uses <CTRL> key for control; <CAPS> key for caps lock; and the three function keys generate values for both unshifted and shifted activations.

✓ SET2RAM switches to Model III RAM mode. By eliminating the cassette routines, it adds memory management facilities. The @BANK handler provides bank switching capability; @XMEM extended memory handler allows for easy programming of I/O from/to memory banks.

✓ MemDISK is a RAM disk which provides a one or two bank memory drive - the same as TRSDOS 6. With it you can create another "disk" drive of up to 63K.

✓ BANKER is a utility to manage bank utilization.

All four modules come fully documented and are ready to install into your LDOS 5.3 system using a Model 4 computer. A 128K machine is only required for MemDISK/DCT and the memory management facility.

## Model III Utilities

### Utility Disk #1 L-32-070

14 utilities useful to novice and experienced LDOS users.

- ✓ COMP is a file and/or byte-for-byte comparison utility.
- ✓ DCT allows you to view or modify the Drive Code Table.
- ✓ DIRCHECK checks the directory on a diskette and corrects most recoverable directory errors.
- ✓ MAP displays or prints the allocation (granules or cylinders and sectors) of a file on a diskette.
- ✓ RAMTEST is a self-relocating RAM memory test.
- ✓ READ40 allows access to a 40T disk in an 80T drive.
- ✓ TYPEIN combines the functions of JCL and KSM. Allows programs such as Profile 3+HD to be totally automated.
- ✓ UNKILL recovers files accidentally KILLED or PURGED.

## Model III Filters

### FILTERS [LDOS 5.x L-32-053]

This combines 23 filters and utilities from FILTER Disks 1 and 2 with assembly source code at a clearance price.

- ✓ XLATE translation for I/O devices
- ✓ LISTBAS print formatting for BASIC programs
- ✓ STRIP7 removes high-order bit off all characters
- ✓ STRIPCNT replaces output >127 or <32 with a # symbol
- ✓ MONITOR displays control chars in string form (%xx)
- ✓ TITLE prints a title after form feed
- ✓ UPPER converts lower-case character to upper case
- ✓ LOWER converts upper case character to lower case
- ✓ SLASH0 translates zero to zero-backspace-slash
- ✓ TRAP discards any user-defined character
- ✓ LINEFEED adds or removes a linefeed after return
- ✓ PAGEPAWS pauses after formfeed for <ENTER> key
- ✓ CALC performs hex/dec/bin conversion; hex add or sub
- ✓ REMOVE removes occurrences of a byte from a disk file
- ✓ COMM1 tests for modem carrier
- ✓ DICTATE toggles cassette on/off from the ✓ keyboard
- ✓ DOSPEED regulates output device speed from keyboard
- ✓ KSMPLUS features key re-definition *on the fly*
- ✓ LCOUNT adds a line number before each line of output
- ✓ MARGIN sends a 2-char control before margin spaces
- ✓ MAXLATE translates one character to a group of chars
- ✓ SLOSTEP for drives that require additional settling time
- ✓ VIDSAV saves the current video screen in high memory

## Model 4 Utilities

### LS-Utility Disk L-32-150

*Filters and Utilities for DOS 6.x:*

- ✓ PRCODES gives control of **boldface** and underlining
- ✓ TRAP discards any user-defined character.
- ✓ MAXLATE is a translation filter system for I/O devices. Does 1:1 or 1:many; includes EBCDIC and DVORAK tables.
- ✓ KSMPLUS improves on the DOS; allows key re-definition *on the fly*; defines strings for the function keys.
- ✓ READ40 allows access to a 40T disk in an 80T drive.
- ✓ TYPEIN combines the functions of JCL and KSM. Allows programs such as Profile 4 to be totally automated.

## Speed Up & Memory Addon

### XLR8er R-MB-004

We're convinced that this speedup/memory board is a **necessary** enhancement of your Model 4. See how it can improve your operation by reading our article on SPEED in *THE MISOSYS QUARTERLY* issue 2.2. Comes with RAMDISK and bank-switching software, and more

- ✓ Improved speed: 64180CPU up to 8MHz Z80 equivalent
- ✓ Optional Expanded RAM: 256K memory (8 more banks)

When ordering, you must specify your exact machine model [26-1069, 26-1069A, 26-1070, etc., & if hires graphics].

## Switch Boxes

### Printer Switch Boxes

For 2 computers and 1 printer; or 1 computer and 2 printers; or 2 computers and 2 printers; how have you lived without a printer switchbox? Aren't you tired of unplugging cables? These boxes switch all 36 leads of Centronics connectors.

R-SB-PAB, AB 2-position switch box  
R-SB-PAD, ABCD 4-position switch box  
R-SB-PX2, AaBb cross switch box

R-06-CMM, 6-foot male-male cable for box to printer.

## FORTH Compiler

### HartFORTH [DOS 6 M-21-071][DOS 5 M-20-071]

HartFORTH is a *full FORTH* that conforms to the 79-STANDARD. The Model I/III version is an indirect threaded version; the DOS 6 version is a direct threaded implementation providing greater execution speed of 10%-40% depending on the details of the actual program. The kernel contains some additional useful words and utilities which turn HartFORTH into a full-fledged development system.

HartFORTH is designed to *run under an operating system* which is totally transparent to the programmer or user. The virtual Memory that it accesses for storage and retrieval purposes is a normal DOS file that is requested by the FORTH system when it is first entered. Doing this has several advantages in that it provides for FORTH files to be used in other language application programs and vice-versa. Enhancements have been built into the kernel in the form of functions to call the operating system file handling routines so that other files may be created or accessed.

HartFORTH supports double length integers, string handling, cursor manipulation, graphics, random numbers, and floating point.

MISOSYS, Inc.  
PO Box 239  
Sterling, VA 22170-0239  
703-450-4181  
800-MISOSYS (647-6797)

## More Software

### Maintenance

#### GO:MTC

[M-33-100]

The **GO:MTC** product is a collection of programs designed to provide maintenance support services for your computer operation. The programs in this group have been rewritten for Model 4 LS-DOS 6.3. You get **DIRCHECK** to perform an integrity check of your disk's directory and repair certain kinds of errors; **FIXGAT** to re-construct a corrupted Granule Allocation Table; **IOMON** for trapping disk input errors; **MAPPER** to check the granulization of files stored on your disk; **RAMTEST** to perform an exhaustive test of all DRAM memory in your computer; and **UNREMOVE** to restore a file inadvertently deleted. All documentation has been revised and is printed in a convenient 5.5" by 8.5" format.

### System Enhancement

#### GO:SYS

[M-33-200]

The **GO:SYS** product is a collection of programs designed to provide additional features to LS-DOS 6.3 operation. The programs in this group have been rewritten for Model 4 LS-DOS 6.3. You get **DOCONFIG** for manipulating CONFIG/SYS files; **DOEDIT** to provide command editing; **MEMDIR** to get a memory directory; **PaDS** for the provision of Partitioned Data Sets; **PARMDIR** to obtain parameterized directory information for listings and Job Control Language processing; **SWAP** to switch drive assignments; **WC** for wild card command invocation; and **ZSHELL** to provide command line I/O redirection, piping, and multiple commands on a line. All documentation has been revised and is printed in a convenient 5.5" by 8.5" format.

### More Model 4 Utilities

#### GO:CMD

[M-33-300]

The **GO:CMD** product is a collection of programs designed to provide additional utility for your computer operation. The programs in this group have been rewritten for Model 4 LS-DOS 6.3. You get **FASTBACK** and **FASTREAD** for hard disk large file archive/restore; **PRO-CESS** to manipulate executable command files; **COMP** to compare two files or disks; **FED2** to investigate and zap disk or file sectors on a full-screen basis; **IFC** updated with new features for interactively copying, moving, renaming, deleting, and invoking files; **ZCAT** for cataloging 6.3 disks. All documentation has been revised and is printed in a convenient 5.5" by 8.5" format.

## More Hardware

### Model 4P internal 1200 bps modem

#### TT512P Modem

H-4P-512

MISOSYS has acquired the **TeleTrends 300/1200 baud** Hayes compatible modem which slips right into the Model 4P's **internal** modem slot. This has a full **"AT" command** set capability. Now Model 4P folks can upgrade to a real Hayes-compatible modem operating at 1200 baud. It's just what you need for your 4P.

### Hard Disk Drive Components

Upgrade your existing 5 Meg drive or build a new package. **Expand your PC to an XT** with these standard components. MISOSYS is now stocking hard drive components. Here's what we have along with your cost:

1. **Seagate ST-225** hard drive, 20 Megabyte formatted, \$225 + (5 lbs) \$7.50/\$10.50 S&H
2. **Western Digital WD-XTGEN drive controller**, \$75 + (1 lb) \$4.00/\$6.00 S&H
3. External **hard drive case e/w 60 Wt ps**; for 1 full or 2 half height, \$125 + (10 lbs) \$13.00/\$18.00 S&H
4. Items 1&2 plus connecting cable set (data & control) \$285 + (6 lbs) \$8.50/\$11.50 S&H

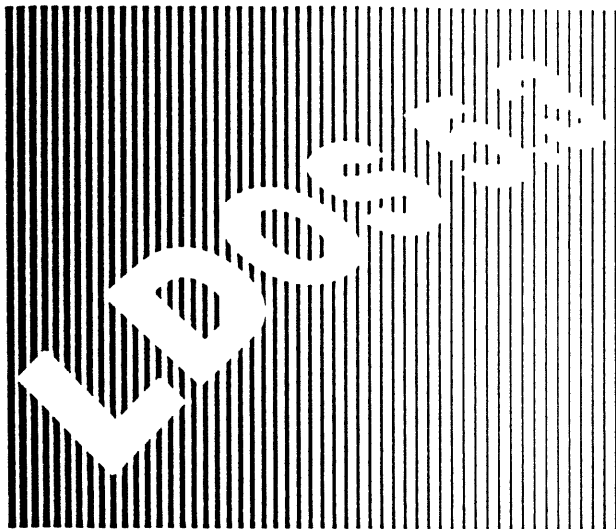
Note that S&H figures are US 48 States / Hawaii & Alaska. Outside US please write for shipping charges. Coming soon, a complete 20Meg installation for your Model III or 4.

### Standby/UPS Power Supply

If your area is subject to unexpected outages, surges, brownouts, and other nuisances of clean power, I suggest you consider a standby power system. The PTI Turbo/2 line of SPS' we're carrying switch to backup under 1 millisecond and also have surge protection. Most, if not all, computer power supplies should be able to hold their DC voltages for much longer than a millisecond when the power is cut. So a SPS is sufficient for most folks, and economical to boot. Our pricing on the SPS packages recommended by us are:

|                             |             |
|-----------------------------|-------------|
| PTI Datashield PC200A       | \$299 + S&H |
| PTI Datashield Turbo/2 300A | \$469 + S&H |
| PTI Datashield Turbo/2 450A | \$499 + S&H |
| PTI Datashield Turbo/2 625A | \$549 + S&H |

These weigh about 37 pounds each so shipping will be by UPS ground only, and only in the 48 United States. Shipping will vary between \$5 and \$18. The PC200A unit is recommended for floppy based systems; the Turbo/2 450A will handle a bigger 286 or 386 class machine. I have one 450A unit feeding Brenda's AST Premium/286 (40Meg drive) and Radio Shack Line Printer V. Another handles my AST 386 and TRS-80 Model 4P.



The LDOS 5.3 upgrade kit is now available to take your Model III or 4 (in 3 mode) to the year 2000. LDOS 5.3 provides complete media compatibility with LS-DOS 6.3, the newest Model 4 DOS released by Logical Systems, Inc. With LDOS 5.3, you can add 12 years to the life of your software. Just look at these improvements over version 5.1.4!

**Only \$34.95**

#### DOS Enhancements:

- Date support through December 31, 1999: time stamping for files.
- LDOS frees up 14 additional file slots for data disks.
- On-line HELP facility for DOS and BASIC—117 screens of help.

#### LIBRARY Enhancements:

- New FORMS, lets you change printer files parameters.
- New SETCOM, lets you change RS-232 parameters.
- Improvements to LIST add paged displays, full-screen hex mode, and flexible tab expansion.
- MEMORY displays directory of terminate and stay resident modules.
- SYSTEM lets you direct the SYSGEN to any drive; adds a flexible drive swap subcommand: SMOOTH for faster disk throughput.
- DIRectory display enhanced with time stamps, file EOF, and more.
- We've also improved: AUTO, COPY, CREATE, DEBUG, DEVICE, DO, FREE, KILL, and ROUTE; and added CLS and TOF commands.

#### UTILITY Enhancements:

- We've added TED, a full screen text editor for ASCII files.
- LCOMM now gives you access to LDOS library commands.
- PATCH supports D&F patch lines with REMOVE capabilities.
- DATECONV converts older disks to the new date convention.

#### BASIC Enhancements:

- Editing now includes line COPY and MOVE.
- Very flexible INPUT @ added for screen fielded input.
- We've added a CMD"V" to dump a list of active variables with values—including arrays.

For \$34.95 (+ S&H), the LDOS 5.3 upgrade kit includes a DOS disk and documentation covering the enhancements. Specify Model 3/4 or MAX-80. If you don't already own LDOS 5.1.4, get our USER manual for \$33 additional.



**MISOSYS, Inc.**

PO Box 239  
Sterling, VA 22170-0239  
703-450-4181 MC, VISA, CHOICE  
Orders Only! 800-MISOSYS 1P-5P EST Monday-Friday

VA residents add sales tax. S&H: US \$2, Canada \$3, Foreign \$6.

## THE NEXT GENERATION OPERATING SYSTEM

FOR YOUR TRS-80  
Model 4/4P/4D  
**FROM THE ORIGINAL  
AUTHOR OF THE  
MODEL 4 OPERATING  
SYSTEM**

**LS-DOS 6.3x**

**\$39.95**

Plus \$2 S&H U.S.  
\$3 Canada; \$6 Foreign

LS-DOS 6.3 is an update to the TRSDOS 6.x operating system for Tandy TRS-80 Model 4 computers. Due to the continuing popularity of the TRS-80 Model 4, this update was deemed necessary to extend the useful life of the computer through the 1990's. At the same time, many other useful features have been added.

- **Upward compatible with TRSDOS 6.x versions.**
- **Expanded date range, 1980 through 1999.**
- **Files now have a modification Time Stamp as well as a date.**
- **The directory display shows file dates and times.**
- **New SVCs for screen print and decimal display.**
- **All new, easy to use full screen ASCII text editor.**
- **Conversion program for pre-6.3 version disks adds new time/date information.**
- **Automatic date/time conversion when copying from TRSDOS 6.x to version 6.3.**
- **One pass format and disk duplication program.**
- **Variable and line number cross reference utility for BASIC programs.**
- **Many "user requested" changes/additions/enhancements have been made.**
- **Several changes to increase "user friendliness."**
- **Many enhancements to BASIC: — INCLUDING —**
  - **Line copy and block move with automatic line reference renumbering.**
    - Search and display variable, line numbers, and keywords.
    - Selective block renumbering.
    - High speed load and save.
    - Direct access to DOS SVCs.
  - List next or previous line(s) with a single keystroke.
  - Single letter abbreviations for Auto, Delete, Edit, and List.

A documentation update describes all new features and utilities, and contains technical information changes and additions.

Since this is an update to TRSDOS 6.2, all customers are expected to have purchased or received and have in their possession a legitimate copy of the TRSDOS 6.x DOS and documentation.

To provide support only to legitimate owners, all LS-DOS 6.3 master disks contain an individually encoded customer service ID and serial number. This entitles customers to support directly from MISOSYS.

**MISOSYS, Inc.**

P.O. Box 239  
Sterling, VA 22170-0239  
800-MISOSYS or 703-450-4181

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